

Attorney's Docket: 2003DE409

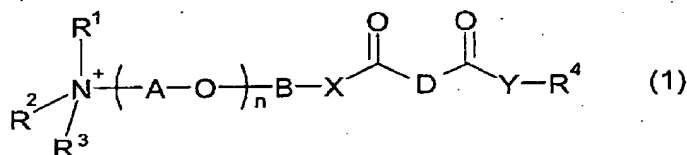
Serial No.: 10/783,407

Art Unit 1712

Response to Office Action mailed 10/17/2006

This listing of claims will replace all prior versions, and listings, of claims in the application:

1.(Previously Presented) A method for inhibiting corrosion and gas hydrate formation, said method comprising adding to a mixture of hydrocarbons and water a compound of formula (1)

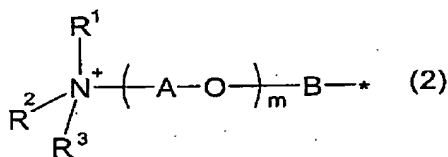


where

R^1, R^2 are each independently C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl,

R^3 is C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, $-\text{CHR}^5-\text{COO}^-$ or $-\text{O}^-$,

R^4 is a radical of the formula (2)



m is a number from 0 to 30,

\star is H, hydrogen or an organic radical having from 1 to 100 carbon atoms,

A is a C_2 - to C_4 -alkylene group,

B is a C_1 - to C_{10} -alkylene group,

D is an organic radical optionally containing heteroatoms and has [[having]] from 1 to 600 carbon atoms, said organic radical being selected from the group

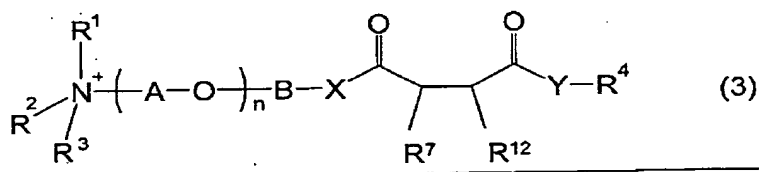
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consisting of

a straight-chain or branched C₂- to C₅₀-alkylene group or a straight-chain or branched C₂- to C₅₀-alkenylene group which is derived from a saturated or unsaturated dicarboxylic acid,

a C₆- to C₅₀-aryl radical or a C₆- to C₅₀-arylalkyl radical which is derived from a benzenedicarboxylic acid, and

a radical of formula(3)



where R⁷ and R¹² are each either hydrogen or a C₂- to C₁₀₀-alkyl or C₂- to C₁₀₀-alkenyl radical and wherein bonding of D occurs through any valence within R⁷ or R¹²

X, Y are each independently O or NR⁶,

R⁵, R⁶ are each independently hydrogen, C₁- to C₂₂-alkyl, C₂- to C₂₂-alkenyl, C₆- to C₃₀-aryl or C₇- to C₃₀-alkylaryl, and

M is a cation

n is a number from 1 to 30.

2.(Previously Presented) The method of claim 1, wherein A is an ethylene or propylene group.

3.(Previously Presented) The method of claim 1, wherein B is a C₂- to C₄-alkylene group.

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4.(Previously Presented) The method of claim 1, wherein R¹ and R² are each independently an alkyl or alkenyl group of from 2 to 14 carbon atoms.

5.(Previously Presented) The method of claim 1, wherein R³ is an alkyl or alkenyl group having from 1 to 12 carbon atoms.

6.(Previously Presented) The method of claim 1, wherein R⁵ and R⁶ are hydrogen.

7.(Previously Presented) The method of claim 1, wherein n is a number in the range from 1 to 10.

8.(Canceled)

9.(Previously Presented) The method of claim 1, wherein D is a C₂- to C₅₀-alkylene or C₂- to C₅₀-alkenylene group.

10.(Previously Presented) The method of claim 1, wherein D is derived from a substituted succinic acid derivative having from 10 to 100 carbon atoms.

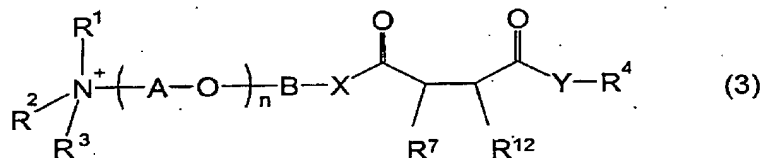
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11.(Currently Amended) The method of claim 1, wherein D is a radical of the formula (3)



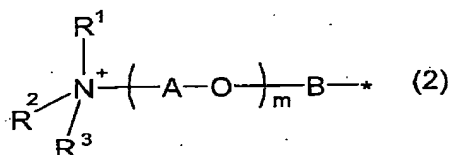
where

R^7 and R^{12} are each either hydrogen or a C_2 - to C_{100} -alkyl or C_2 - to C_{100} -alkenyl radical which is obtainable as an oligomer of C_2 - to C_8 -alkenes and may be straight-chain or branched, with the proviso that exactly one of the R^7 and R^{12} radicals is hydrogen wherein bonding of D occurs through any valence within R^7 or R^{12} , and

R^1, R^2 are each independently C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl,

R^3 is C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, $-\text{CHR}^5-\text{COO}^-$ or $-\text{O}^-$,

R^4 is M, hydrogen or an organic radical having from 1 to 100 carbon atoms, a radical of the formula (2)



A is a C_2 - to C_4 -alkylene group,

B is a C_1 - to C_{10} -alkylene group,

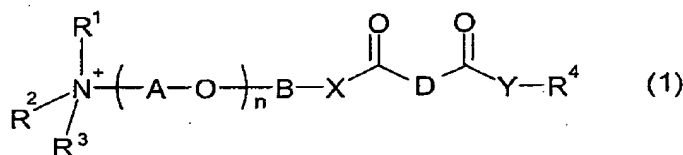
X, Y are each independently O or NR^6 ,

n is a number from 1 to 30.

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12.(Withdrawn) A compound of the formula (1)



where

R^1 , R^2 are each independently C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl,

R^3 is C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, $-\text{CHR}^5-\text{COO}^-$ or $-\text{O}^-$,

R^4 is M, hydrogen or an organic radical having from 1 to 100 carbon atoms,

A is a C_2 - to C_4 -alkylene group,

B is a C_1 - to C_{10} -alkylene group,

D is an organic radical having from 1 to 600 carbon atoms,

X, Y are each independently O or NR^6 ,

R^5 , R^6 are each independently hydrogen, C_1 - to C_{22} -alkyl, C_2 - to C_{22} -alkenyl, C_6 - to C_{30} -aryl or C_7 - to C_{30} -alkylaryl, and

M is a cation

n is a number from 1 to 30.

13.(Canceled)

14.(Canceled)

15.(Withdrawn) The compound of claim 12, wherein R^4 contains heteroatoms.

16.(Withdrawn) The compound of claim 12, wherein D contains heteroatoms.